



(13) Closure Plan OAC 3745-55-11

(i) General Information

This plan identifies all steps necessary to close the facility at any point during its intended operating life. This facility consists of interdependent manufacturing processes; furthermore, drum storage of waste is expected to be required to the exclusion of any other regulated hazardous waste management facility. Hence, partial closure details are not applicable.

CCF will maintain an on-site copy of the closure plan and all revisions to the plan until certification of closure completeness has been submitted and accepted by the USEPA Region V and Ohio EPA. CCF will notify Region V and Ohio EPA at least 180 days prior to the date we expect to begin final closure steps.

The date of closure cannot be logically projected as this is an ongoing industrial facility - applying for a permit to temporarily store on-site.

However, if a date must be established for closure of the storage facility to store wastes for greater than 90 days, a date of 2050 will be used (irrespective of the production facility).

Upon completion of closure, CCF and an independent professional engineer will submit certifications of closure in accordance with the specifications in the approved closure plan.

This closure plan will specifically address the closure of the hazardous waste drum storage area.

Banbury mixers, the electroplating sump and the areas and equipment impacted in the handling and loading of these hazardous wastes. Although other hazardous materials (raw materials, etc.) are handled on-site and will be necessarily handled upon closure of the site, CCF will not address the closure activities associated with the hazardous materials not regulated by hazardous waste regulations.

(ii) Closure Performance Standard

This closure plan was designed (1) to ensure that the plant will not require further maintenance and controls due to hazardous waste, (2) to minimize or eliminate threats to human health and the environment due to hazardous waste and (3) to avoid escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or atmosphere. All of the waste handling areas are in the building on concrete paved areas, with 4" curb for containment, prohibiting migration of contaminants to underlying soils. The soil under the concrete floor will be sampled and tested for contamination from the hazardous waste stored on the concrete pad. The sampling method will be set up by a random method as prescribed in SW-846.

The equipment to be used will be an electric drill to drill through the concrete. Once the soil is exposed under the concrete, a core sampler will be used to collect 0-6" deep core

samples. It is anticipated that five (5) samples will be collected and analyzed for the following parameters:

- Arsenic
- Barium
- Cadmium
- Chromium Total
- Lead
- Mercury
- Selenium
- Silver
- F002 Constituents
- F003 Constituents
- F005 Constituents
- Corrosivity.

(iii) Maximum Waste Inventory

The maximum inventory of hazardous waste stored on-site at any given time during the operating life of the plant is 450 drums, the process design capacity for the drums storage facility.

(iv) Inventory Removal and Disposal or Decontamination of Equipment.

(a) Drummed waste - full drums of solid waste will be transported for land disposal. Drums of liquid waste will be transported to a treatment facility (incineration).

Empty drums - any empty drums on-site which have residual hazardous waste will be rinsed with an appropriate solvent. The resultant wash waste will be drummed in 17E and 17H drums and sent to an approved disposer for final disposal.

Leaking drums - any leaking drums of waste will be enclosed in an overpack drum for transport to the appropriate facility.

(b) Equipment decontamination - after all recyclable solvents have been properly disposed of, all piping, tanks and ductwork in connection with the solvent tank wash areas will be dismantled. Any residual materials will be allowed to be drained and collected. Pipes, tanks and ductwork will be allowed to air dry. The areas surrounding the solvent wash tank areas will be steam cleaned and wash waters collected and treated off site. THE PERIMETER OF THE DECONTAMINATION WORK AREA WILL BE SURROUNDED WITH POLYETHYLENE SHEETING TO PREVENT SPLASHING AND CROSS CONTAMINATION OUTSIDE THE AREA. THE FLOOR WILL BE BARRICADED WITH ABSORBENT BOOMS.

Fork lifts, shovels and squeegees used to move drums or handle waste will be steam-cleaned as necessary. Any other equipment, gloves, cloths, etc., which may be contaminated beyond the potential for cleaning, will be drummed and disposed of at the licensed disposal facility.

(c) Storage area decontamination - the hazardous waste storage are and, as needed, the surrounding drum handling areas, will be steam-cleaned of any residual waste material. The wash waters will be collected and transported by drums or tank truck to the off-site treatment facility.

(d) The areas surrounding, and including, the Banbury mixers, where waste is generated, will be steam-cleaned with wash waters collected and treated off-site.

(e) The sump in the electroplating portion of the plant, where other wastes are generated, will be cleaned of any residual waste and steam-cleaned, if necessary.

(f) Approximately 1,000 gallons of wash water and residue are anticipated to be generated during the container storage, solvent wash tank areas, Banbury mixers, and electroplating sump decontamination processes.

The last rinse waters will be analyzed for the following parameters:

- Arsenic
- Barium
- Cadmium
- Chromium Total
- Lead
- Mercury
- Selenium
- Silver
- F002 Constituents
- F003 Constituents
- F005 Constituents
- Corrosivity

These areas will be considered free of contamination only after the reinseate waters meet the Ohio EPA, Division of Solid and Hazardous Waste Management clean levels. If rinse waters indicate the area is not clean, additional washing and rinsing will be conducted followed by additional testing of the rinse waters to verify the area is free of contamination.

(g) The off-site treatment and disposal facilities to which waste will be taken, are as follows:

## Disposal

CHEM-MET Services  
Wyandotte, Michigan  
EPA ID# MID096963194

Michigan Disposal, Inc.  
Belleville, Michigan  
EPA ID# MID000724831

## Recycling Facility

Safety-Kleen Envirosystems Company  
New Caste, Kentucky  
EPA ID# KYD053348108

## Incineration

Ross Incineration Services  
Grafton, Ohio  
EPA ID# OHD048415665

Rineco Chemical Industries  
Benton, Arkansas  
EPA ID# ARD981057870

## Liquid Disposal

Tricil Environmental Services  
Hillard, Ohio  
EPA ID# OHD081290611

Usher Oil Company  
Detroit, Michigan  
EPA ID# IND980590947

Industrial Fuels & Resources  
South Bend, Indiana  
EPA ID# IND 980590947

(h) Transporters of the waste will be:

Acme Liquid Waste  
Westerville, Ohio  
EPA ID# OHD000772723

Ross Transportation Services  
Grafton, Ohio  
EPA ID# OHD980614374

Cousins Waste Control  
Toledo, Ohio  
EPA ID# OHD-06808155

Empty containers shall be transported to a drum reclaimer.

(v) Schedule for Closure

Within 90 days after generation of the final volume of process hazardous waste, final closure will be initiated. Notification to the appropriate agencies will take place 90 days before the generation of final volume of process hazardous waste. Completion of closure will be within 180 days of final closure initiation. The proposed schedule for closure is shown in Figure 12.

(vi) Post-closure Plan

Post-closure care will not be needed because no waste will be left on-site.

(vii) Closure Cost Estimate

Table 3, pg. 8 of this section, itemizes the costs associated with closure of the hazardous waste storage area.



The cost estimates will be revised upon any change in the closure plan. The cost estimates will be revised at least once annually on May 19, using the inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business.

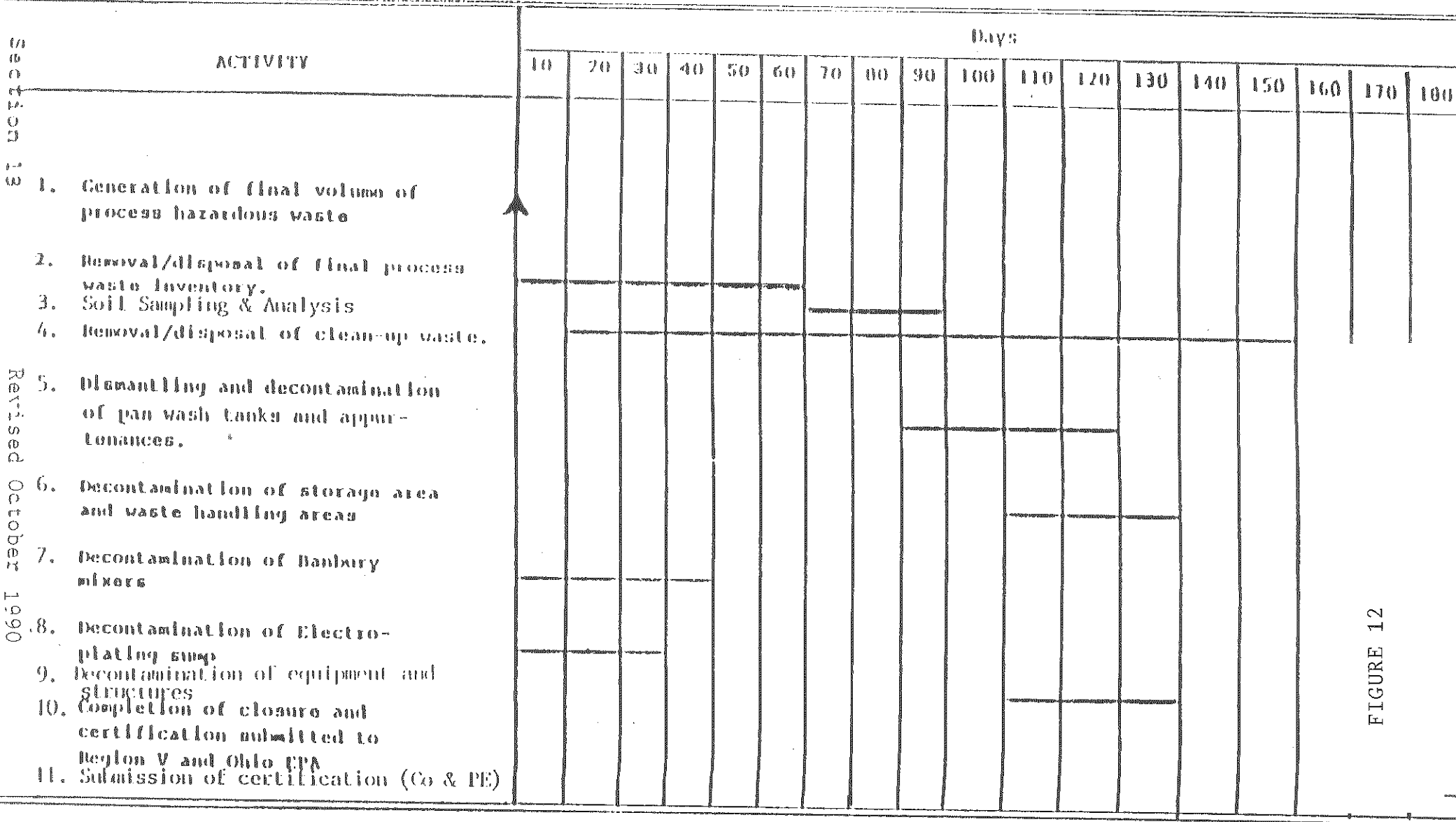


FIGURE 12

CLOSURE SCHEDULE

- NOTE:**
1. Disposal of final waste inventory includes the hazardous wastes generated due to the cleanup process.
  2. This process continues throughout most of the closure schedule.

TABLE 3  
CLOSURE COST ESTIMATE \*

	<u>Drums</u>	<u>Cost Per Drum</u>	<u>Labor @ \$21.25/HR</u>	<u>Materials</u>	<u>Total</u>
Waste Inventory Removal	450	non-			\$49,500
Clean-up Wastes	25	\$ non-			\$ 1,500
Hazardous Waste Storage Area Clean-up			\$9,563	\$5,300	\$14,863
Soil Sample Collection & Analysis			\$ 500	\$7,500	\$ 8,000
Sub-Total					\$73,863
10% Contingency					\$ 7,386
Total					\$81,249

Hazardous Chemical  
And  
Hazardous Waste Control Handbook

Columbus Coated Fabrics  
Columbus, Ohio



Columbus Coated Fabrics  
Hazardous Chemical And  
Hazardous Waste Control Handbook

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This Columbus Coated Fabrics Hazardous Chemicals and Hazardous Waste Control Handbook provides information on Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations regarding the handling of hazardous chemicals and hazardous wastes. The EPA regulations are designed to protect the environment and safeguard the public's and employee's right to know about hazardous chemicals and hazardous wastes.

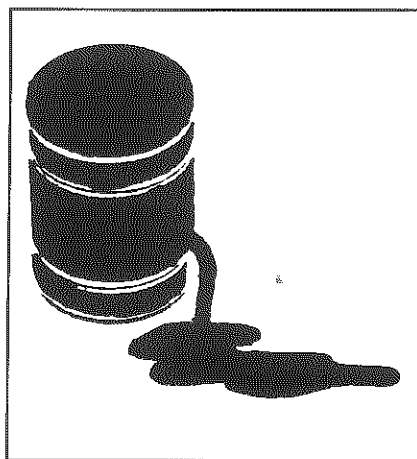
The OSHA regulations are designed to protect workers and safeguard employees' rights to know about workplace exposure. The purpose of this handbook is to inform you about how these regulations apply to you as an employee of Columbus Coated Fabrics.

Consult your State and Federal Regulations for more specific information regarding the handling of hazardous chemicals and hazardous wastes.

Columbus Coated Fabrics, (CCF) Borden Packaging and Industrial Products, Division of Borden, Inc. has developed this comprehensive training handbook to be used by all personnel who have direct or indirect responsibility or contact with hazardous chemicals and hazardous wastes. This manual will provide to readers a reference that along with other training programs will emphasize safe and correct procedures in handling hazardous chemicals and hazardous wastes.



In Case Of Leaks Around The Chime  
(Seam) Or Leaks Near The Top Or  
Bottom Of A Container:



1. Identify the contents of the container and determine the potential hazard involved. Put on protective gear.
2. Turn the container so that the leak is at the top. This will temporarily slow or stop the leak.
3. In cases where the Emergency Coordinator deems it appropriate, plug the leaking container.
4. Cover the entire container with a plastic bag.
5. Invert the empty overpack over the top of the leaking container.
6. Carefully invert the two containers and seal the overpack.

In Case Of Leaks In The Side Of  
Container:

1. Identify the contents of the container and determine the potential hazard involved. Put on protective gear.
2. Turn the container on its side so that the leak is at the top. This will temporarily slow or stop the leak.
3. In cases where the Emergency Coordinator deems it appropriate, plug the leaking container.
4. Cover the entire container with a plastic bag.
5. Place a short piece of 2 x 4 wood block or other material about mid-way under the leaking container.
6. Slide the overpack over the end of the leaking container and slowly lift the leaking container upward while sliding it into the overpack.
7. If possible, patch the leak.

AT CCF—SAFETY IS NO  
ACCIDENT

6. CCF maintains records as required, including:
  - A. Copies of all manifests.
  - B. Hazardous waste annual and bi-annual generation reports.
  - C. Exception reports (in case of lost shipment records).
  - D. Training records.
7. CCF also maintains a Contingency Plan and a Chemical Incident Prevention Preparedness and Response Program (CHIPPR) manual for response to hazardous waste emergencies.

CCF has obtained a Federal Hazardous Waste Storage Permit which allows it to store wastes for more than 90 days prior to shipping for disposal. The following additional requirements therefore apply:

1. Maintenance of adequate security at site.
2. Regular inspections of storage facilities.
3. Maintenance of closure plan and financial assurance that CCF will have sufficient funds to properly close its facility if it becomes necessary in the future.
4. Take necessary precautions to ensure safe handling of waste.
5. Apply and obtain permit to operate storage facility.
6. Personnel training.
7. Records of hazardous wastes in storage.
8. Spill prevention and cleanup.

(1910.1200) Hazard Communication

The OSHA Hazard Communication Program requires employers such as CCF to provide you with information and training on hazardous chemicals in your work area at the time of your initial assignment and whenever a new hazard is introduced into your work area. There is no specific hourly requirement for training under this regulation; however, your employee training must include at least:

1. Methods and observations that may be used to detect the presence or release of hazardous chemicals in the work area;
2. The physical and health hazards of the chemicals in the work area;
3. The measures you can take to protect yourself from exposure; and
4. The details of the hazard communication program have been developed by the employer. CCF's hazard communication program and the material safety data sheets for the chemicals used are kept in the office of the Safety Director.



### EPA Regulation (264.16) Personnel Training

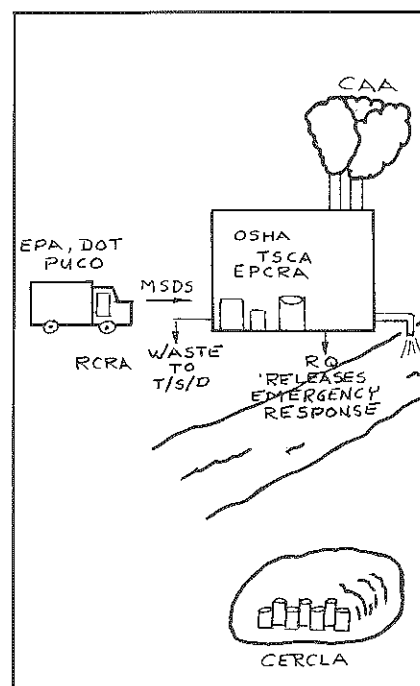
Our Part B permit (to store hazardous waste longer than 90 days) requires special training.

This training program has been designed to ensure that you are able to respond effectively to emergencies by familiarizing you with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

1. Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment;
2. Key parameters for automatic waste cut-off systems;
3. Communications or alarm systems;
4. Response to fires or explosions;
5. Response to ground-water (or surface water) contamination incidents; and
6. Shutdown of operations.

Additional requirements for the contents of the training program are outlined in the Federal Register under 264.16. The same section requires an annual review of the initial training and the maintaining of records at the facility documenting that the training has been completed as required.

The following diagram depicts which regulations apply to which areas of a facility.



### In Case Of An Uncontained Spill:

1. Notify the work area foreman at once and take immediate steps to contain the emergency.
2. The foreman will report to the scene of the emergency and assume command. He will notify the Plant Superintendent if one is available. If no Plant Superintendent is on duty, the foreman will notify the Emergency Coordinator or his designee.
3. The Plant Superintendent will report to the scene of the emergency and assume command. He will notify the Emergency Coordinator.
4. The Emergency Coordinator will report to the scene of the emergency and assume command. If necessary, he will contact other experts for advice in handling the spill.
5. When the emergency is under control, decontaminate, renovate and return the emergency equipment to its proper location.
6. The Emergency Coordinator will direct the cleanup and decontamination of the area.

### Spill-Related Equipment Available:

1. A PORTABLE PUMP, for removal of spills from the sump inside the Hazardous Waste Storage Building or from emergency diked areas, is stored in the yard adjacent to the Hazardous Waste Storage Building.
2. EMERGENCY SAND is contained in drums at the Hazardous Waste Storage Building, unloading dock, and spent ink 90 day storage area (Building 95).
3. SHOVELS for distribution of the emergency sand are stored in the vicinity of the drums containing the sand.
4. SQUEEGEES are available in the area for cleaning residual liquids from the affected area.

## Chapter II

### Characteristics Of Hazardous Wastes

#### In Case Of Fire In The Hazardous Waste Storage Area:

1. Activate the fire alarm at the South Mix building
2. Close fire doors in adjacent areas.
3. Shut down all equipment in the area, as necessary and practical.
4. Immediately cease any work in the area.
5. Contact the Emergency Coordinator.
6. Clear the area of all personnel not actively involved in fighting the fire.
7. If necessary, remove injured persons. Otherwise, any injured persons will remain as they are until they can receive medical treatment from qualified personnel.
8. The Emergency Coordinator will determine if the emergency situation presents a serious threat to human health inside and outside the facility.
9. When the emergency is under control, decontaminate, renovate and return the emergency equipment to its proper location.
10. Upon approval of the Emergency Coordinator, resume normal activities.

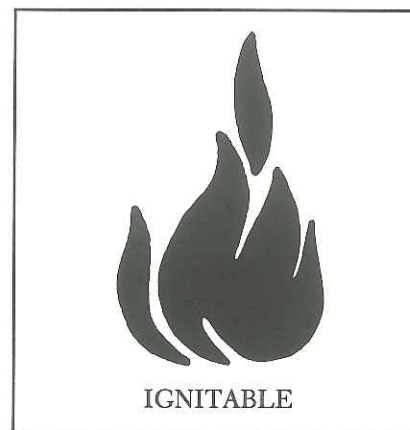
#### In Case Of A Spill Which Is Contained Within A Dike:

1. Notify the work area foreman at once and take immediate steps to contain the emergency.
2. The foreman will notify the Emergency Coordinator of the release.
3. When the emergency is under control, decontaminate, renovate and return the emergency equipment to its proper location.
4. The Emergency Coordinator will direct the cleanup and decontamination of the area.

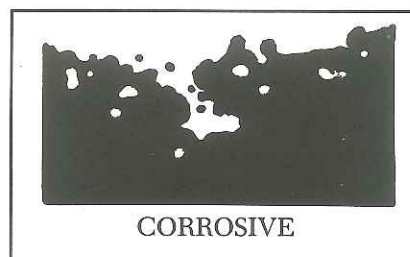
What makes a material hazardous?

According to Federal RCRA regulations, a material is hazardous if it is listed as such or if it exhibits any of the following characteristics:

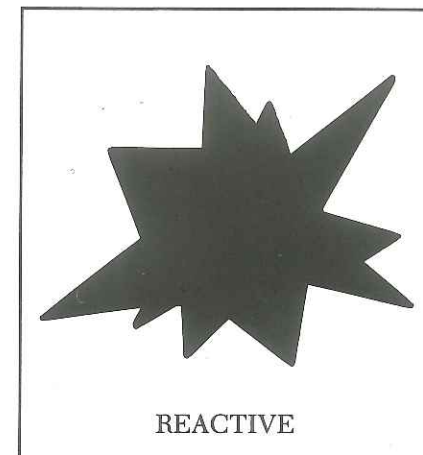
1. Ignitability: Can catch fire easily. Flash point below 140°F.



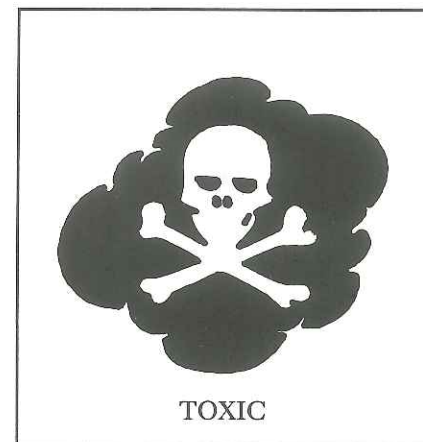
2. Corrosivity: Can burn the eyes on contact or corrode containers. PH is less than 2.5 or greater than 12.



3. Reactivity: Can catch fire, explode or give off dangerous fumes when exposed to water or air or to another chemical.



4. EP Toxicity: Poisonous



## Chapter V

### Emergency Response Procedures

Columbus Coated Fabrics stores its hazardous wastes in orange 55-gallon drums in the permitted Hazardous Waste Storage facility, Building #37. At CCF, the following wastes are present:

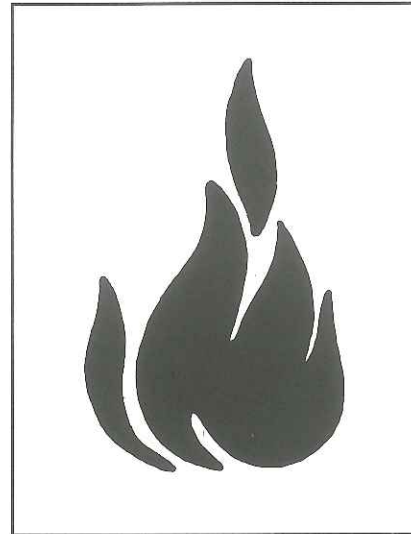
1. Pan Wash Tank Waste: This is generated at the two pan wash rooms. It has the characteristics of Ignitability and EP Toxicity and is a listed waste (F003, F005).
2. Banbury Seal and Plasticizer Residue: This is generated at the dust stops of the Banbury mixers. It has the characteristic of EP Toxicity.
3. Limestone Sump Plating Residue: This is generated in the Chrome Plating Department limestone sump. It has the characteristic of EP Toxicity and is a listed waste (F006).
4. Plating Residue: This is generated in the Chrome Plating Department as a process waste. It has the characteristic of EP Toxicity.
5. DN-14—Solid and Liquid: This is generated at the DN-14 Coating Machine as a process waste. It has the characteristic of Ignitability.

6. Engraving Wastewater Treatment Sludge: This is generated in Department #48 as a process waste.

You can find additional information concerning the Characteristics of Hazardous Waste in 40 CFR 261.21, 261.22, 261.23 and 261.24.

The presence of a wide variety of chemical substances at Columbus Coated Fabrics presents potential hazards. In case of emergency, you should refer to the following procedures to handle the situation in a safe manner.

#### In Case Of Fire Or Explosion:



1. Notify the foreman at once and take immediate steps to contain the emergency.
2. Activate the fire alarm in the area which alerts the CCF emergency brigade and the City of Columbus Fire Department.

3. Notify the Plant Superintendent if one is available. The Plant Superintendent will assume command and notify the Emergency Coordinator.
4. If no Plant Superintendent is available, notify the Emergency Coordinator, or his designee, who will proceed at once to the location of the emergency.
5. The Emergency Coordinator or his designee will assume authority for obtaining and directing the necessary equipment and personnel in order to contain and eliminate the cause of the emergency. The Emergency Coordinator will contact other experts if necessary for advice.
6. In response to a fire, explosion or release, cease all hazardous waste activity.
7. When the emergency is under control and the emergency equipment is decontaminated and renovated, return the equipment to its proper location.



## Chapter IV Personal Protective Equipment

Every job has different protection requirements. When working with hazardous materials, protective clothing and equipment might be required, such as:

- Safety glasses, goggles or face shield
- Gloves
- Rubber boots or special shoes
- Protective suits
- Respirators

You should check the Material Safety Data Sheet for the substance with which you are working to determine which personal protective equipment is necessary to ensure your safety.





At Columbus Coated Fabrics, the following personal protective equipment is available for your use:

1. Rubber aprons, boots, gloves.
2. Face shields, safety goggles, safety spectacles.
3. Self-contained breathing apparatus (SCBA), half face mask, organic vapors respirator, full face organic vapors respirator, acid gas respirators.
4. Emergency showers and eye wash stations.

## Chapter III Labeling

Every container of hazardous chemicals is labeled to inform anyone handling the container about the chemical's possible hazards and about the basic steps you can take to protect yourself against those risks.

Below are examples of the labels used at Columbus Coated Fabrics to identify containers:

 <p><b>HAZARDOUS WASTE</b> FEDERAL LAW PROHIBITS IMPROPER DISPOSAL OF HAZARDOUS WASTE HANDLE WITH CARE! CONTAINS HAZARDOUS OR TOXIC WASTES</p>
 <p><b>NON-HAZARDOUS WASTE</b></p>
 <p><b>EMPTY</b></p>
 <p>COLUMBUS COATED FABRICS SPENT MATERIAL DRUM # _____ DESCRIPTION _____ SOURCE _____ ACCUMULATION START DATE _____ DATE MATERIAL ANALYZED _____</p>

These labels may use words, numbers, letters, or symbols to tell you:

1. What's in the container.
2. What the hazard could be (health, flammability, reactivity, etc.).
3. Any important storing or handling instructions.
4. The basic personal protective procedures, equipment, and clothing, recommended when working with this chemical.

<p>MEK-COLOR-ROOM-MIBK</p>	
<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>3</b>
<b>REACTIVITY</b>	<b>0</b>
<b>PERSONAL PROTECTION</b>	
	<b>G</b>

**ALWAYS READ THE CONTAINER LABEL FIRST** before moving, handling or opening a container.

## MSDS: Material Safety Data Sheets

Columbus Coated Fabrics has Material Safety Data Sheets (MSDS) for every hazardous chemical it uses. The Material Safety Data Sheets are located in the offices of the Superintendents, Safety/Security, Laboratory, Chrome Plating, Maintenance, Engraving, Pre-Mix, Calender, Print, O.C. Mix and Corporate Science and Technology.

For more detailed information concerning chemical and physical dangers, safety procedures, and emergency response techniques, refer to the Material Safety Data Sheets.

The MSDS covers the following sections:

1. Identity, including who manufactures the substance, their address, emergency phone number and date prepared.
2. Hazardous ingredients, such as the substance's hazardous components, chemical ID and common names. Worker exposure limits are also included.
3. Physical and chemical characteristics such as:
  - \*Boiling point
  - \*Vapor pressure
  - \*Vapor density
  - \*Melting point
  - \*Evaporation rate
  - \*Water solubility
  - \*Appearance and odor under normal conditions
4. Physical hazards, such as fire and explosion, and ways to handle those hazards, such as fire fighting equipment and procedures.

5. Reactivity, indicating whether the substance is stable.
6. Health hazards, to inform you how the chemical could enter the body, such as through inhaling, skin contact, swallowing. The MSDS will also provide information concerning all the possible health hazards that could result from exposure and the signs and symptoms of exposure, such as:
  - \*Eye irritation
  - \*Nausea
  - \*Dizziness
  - \*Skin rashes
  - \*Headache
  - \*Existing medical conditions that could be aggravated by exposure
7. Precautions for safe handling and use, such as:
  - \*What to do if the substance spills or leaks.
  - \*How to dispose of the substance.
  - \*Equipment and procedures needed for cleaning up spills and leaks.

This section also includes emergency and first aid procedures if an accident occurs.

- In addition, this section will provide information on:
- \*How to handle the substance properly.
  - \*How to store it.
  - \*Any other precautions.

8. Control measures to reduce harmful exposure, such as type of respirator, gloves, eye protection, protective clothing, and ventilation to be used when handling that particular substance. The section should also include special work or hygiene practices.

**READ THE MSDS BEFORE YOU START A JOB. THAT WAY, YOU'LL BE PREPARED.**

Your supervisor will cover the specific characteristics and safety concerns associated with any new chemicals put to use at CCF.

Contractors must also be informed about the various chemicals with which they may come in contact.

**COLUMBUS COATED FABRICS**

DATE PREPARED: JULY 1989

NAME: WALLCOVERING  
TYPE: WALLCOVERING  
APPLICATION: WALLCOVERING  
FEDERAL WORD: WALLCOVERING

THIS MATERIAL IS AN ARTICLE AS DEFINED IN 29 CFR PART 1910.1200  
"HAZARD COMMUNICATION" STANDARD.

THE MATERIAL IS NOT A "HEALTH HAZARD" OR A "PHYSICAL HAZARD" AS  
DEFERRED WHO REVIEWED ACCORDING TO THE REQUIREMENTS OF THE  
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION 29 CFR PART  
1910.1200 "HAZARD COMMUNICATION" STANDARD.

ECOLOGICAL HAZARD RATING  
HEALTH: 0 (SAFE)  
FIRE: 1 (SLIGHT)  
REACTIVITY: 0 (SAFE)

TOXICOLOGY: 1200 HAZARDOUS INGREDIENTS/REPORTED HEALTH EFFECTS  
CAS REGISTRY NO. MATERIAL DESCRIPTION  
NONE KNOWN TO DATE

IMMEDIATE HEALTH HAZARD DATA  
NO HAZARDOUS EFFECTS TO HUMANS.

HANDLING PRECAUTIONS  
NO SPECIAL PRECAUTIONS ARE KNOWN TO HUMANS.

EMERGENCY AND FIRST AID PROCEDURES  
NO SPECIAL PRECAUTIONS ARE KNOWN TO HUMANS.

FIRE AND EXPLOSION HAZARD DATA  
WILL BURN  
IN CASE OF FIRE: USE WATER, SPRAY, DRY CHEMICAL, FOAM OR CO<sub>2</sub>, USE  
WATER TO KEEP FIRE SERVICE CONTAINED OVER.

OTHER INFORMATION  
This information was prepared by the manufacturer and is intended to provide information to the user. It is not intended to be used as a substitute for the user's own safety procedures. The user should always follow the manufacturer's instructions and use proper safety procedures. The user should also consult the Material Safety Data Sheet for the specific chemical being used.

DEED NOTICE

(14) Deed Notice

Notice in the deed and notice to the local land authorities are not required because no waste will be left on the site after closure.

CLOSURE COST FINANCIAL  
ASSURANCE



BORDEN PACKAGING and INDUSTRIAL PRODUCTS  
DOMESTIC AND INTERNATIONAL  
DIVISION OF BORDEN, INC.



C. RICHARD SPRINGER  
MANAGER—ENVIRONMENTAL  
ENVIRONMENTAL AFFAIRS

March 29, 1990

AIRBORNE EXPRESS

Director  
Ohio Environmental Protection Agency  
1800 Watermark Drive  
Columbus, OH 43266-1049

Re: Columbus Coated Fabrics -01-25-0145/OHD004294351

Dear Sir:

I am forwarding the financial test letter documenting hazardous waste closure cost financial responsibility and liability insurance coverage.

Call me at 431-6667 if you have any questions.

Sincerely,

*Rich Springer RHS*  
C. Richard Springer

CRS:mlh

attachments  
cc: w/attachments

W. B. Barton  
W. G. Ilg  
E. A. Ferster

BORDEN PACKAGING and INDUSTRIAL PRODUCTS

DOMESTIC AND INTERNATIONAL  
DIVISION OF BORDEN, INC.



C. RICHARD SPRINGER  
MANAGER—ENVIRONMENTAL  
ENVIRONMENTAL AFFAIRS

March 23, 1990

Director  
Ohio Environmental Protection Agency  
P.O. Box 1049  
1800 WaterMark Drive  
Columbus, OH 43266-0149

Dear Sir:

I am the chief financial officer of Borden, Inc., 180 East Broad Street, Columbus, Ohio, 43215. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care as specified in Chapters 3745-55 and 3745-66 of the Administrative Code.

The firm identified above is the owner or operator of the following facilities for which liability coverage for both sudden and nonsudden accidental occurrences is being demonstrated through the financial test specified in Chapters 3745-55 and 3745-66 of the Administrative Code:

EPA ID #LAD003913449  
Borden Chemical & Plastics  
P.O. Box 427  
Geismar, LA 70734

EPA ID #TXD046933867  
Borden Pkg. & Ind. Prod.  
Division of Borden, Inc.  
3221 Randol Mill Road  
Arlington, TX 76011

EPA ID #FLT130010069  
Borden Pkg. & Ind. Prod.  
Division of Borden Inc.  
5004 N. Combee Road  
Lakeland, FL 33801

EPA ID #NCD001725464  
Borden Chemical  
Smith-Douglass Division  
Borden, Inc.  
P.O. Box 1577  
Kinston, NC 28501

Ohio Permit #01-25-0145  
EPA ID #OHD004294351  
Borden Pkg. & Ind. Prod.  
Columbus Coated Fabrics  
1280 N. Grant Ave.  
Columbus, OH 43216

The firm identified above guarantees, through the corporate guarantee specified in rules 3745-55-40 through 3745-55-51 and 3745-66-40 through 3745-66-48 of the Administrative Code, liability coverage for both sudden and nonsudden accidental occurrences at the following facilities owned or operated by the following subsidiaries of the firm: None.

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Chapters 3745-55 and 3745-66 of the Administrative Code. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

Ohio Permit #01-25-0145  
EPA ID #OHD004294351  
Borden Pkg. & Ind. Prod.  
Columbus Coated Fabrics  
1280 N. Grant Ave.  
Columbus, OH 43216  
Closure Cost Est. \$89,250

2. The firm identified above guarantees, through the corporate guarantee specified in Chapters 3745-55 and 3745-66 of the Administrative Code, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: None.

3. The firm identified above is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Chapters 3745-55 and 3745-66 of the Administrative Code. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility:

EPA ID #LAD003913449  
Borden Chemical & Plastics  
P.O. Box 427  
Geismar, LA 70734  
UIC-Plugging &  
Abandonment \$266,700

EPA ID #TXD046933867  
Borden Pkg. & Ind. Prod.  
Division of Borden Inc.  
3221 Randol Mill Road  
Arlington, TX 76011  
Closure Cost Est. \$157,500

EPA ID #NCD001725464  
Borden Chemical  
Smith-Douglass Division  
Borden Inc.  
P.O. Box 1577  
Kinston, NC 28501  
Post-Closure Est. \$378,000  
Corrective Action - \$525,000

EPA ID #FLT130010069  
Borden Pkg. & Ind. Prod.  
Division of Borden Inc.  
5004 N. Combee Rd.  
Lakeland, FL 33801  
Closure Cost Est. \$78,750  
Post-Closure Est. \$150,000

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated to the director through the financial test or any other financial assurance mechanism specified in Chapters 3745-55 or 3745-66 of the Administrative Code. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: None.

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Chapter 3745-34 of the Administrative Code. The current closure cost estimates as required by Chapters 3745-34, 3745-55 and 3745-66 of the Administrative Code are shown for each facility: None

The firm is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

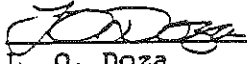
The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1989.

(in million\$)

ALTERNATIVE II

- |     |  |                        |
|-----|--|------------------------|
| 1.  | Sum of current closure and post-closure cost estimates                               | \$ <u>1.6</u>          |
| 2.  | Amount of annual aggregate liability coverage  | <u>15.0</u>            |
| 3.  | Sums of 1 & 2  | <u>16.6</u>            |
| 4.  | Current bond rating of most recent issuance of this firm and name of rating service: | <u>Aa3</u> Moody's     |
| 5.  | Date of issuance of bond:  | <u>6-21-1989</u>       |
| 6.  | Date of maturity of bond:  | <u>6-15-2019</u>       |
| *7. | Tangible net worth   | <u>\$ 432.7</u>        |
| *8. | Total assets in U.S.   | <u>\$ 3265.8</u>       |
|     |  | YES NO                 |
| 9.  | Is line 7 at least \$ 10 million?  | <u>X</u> <u>      </u> |
| 10. | Is line 7 at least 6 times line 3?   | <u>X</u> <u>      </u> |
| 11. | Are at least 90% of firm's assets located in the U.S.? If not, complete line 12.     | <u>      </u> <u>X</u> |
| 12. | Is line 8 at least 6 times line 3?   | <u>X</u> <u>      </u> |

I hereby certify that the wording of this letter is identical to the wording specified in paragraph (G) of rule 3745-55-51 of the Administrative Code, as such regulations were constituted on the date shown immediately below.

[Signature]   
[Name] L. O. Doza  
[Title] Senior Vice President and Chief Financial Officer  
[Date] 3-30-90



(16) Post Closure - Financial Assurance

Post Closure-Financial Assurance Mechanisms are not applicable.



(17) Sudden and Non-Sudden Insurance

Following is the Certificate of Insurance documenting the sudden accidental liability insurance policy. Non-sudden liability insurance is not required because CCF only has drum storage of hazardous waste.



**BORDEN INC**

165 N. WASHINGTON AVENUE, COLUMBUS, OHIO 43215



THOMAS R. HEATON  
ENVIRONMENTAL SPECIALIST  
ENVIRONMENTAL AFFAIRS

March 7, 1984

Ohio EPA - DHMM  
361 E. Broad St.  
Columbus, OH 43215

Attn: Deborah Tegtmeyer

Re: Borden Chemical, Columbus Coated Fabrics  
Columbus, Ohio 01-25-0145  
Sudden, Accidental Liability Insurance

Dear Debbie:

Enclosed herewith is the certificate of sudden, accidental liability insurance for Columbus Coated Fabrics. Furthermore, following up our telephone conversation on March 6, 1984, Borden is proceeding with obtaining the certificate for the Printing Ink facility in Cincinnati, Ohio.

If you have any questions, call me at 225-4860.

Sincerely,

Thomas R. Heaton

TRH/slw/1.24

Enclosure

cc: W. G. Ilg ✓  
J. J. Cicchetti

Hazardous Waste Facility Certificate of Liability Insurance - Ohio

1. Insurance Company of North America, (the insurer) of 127 John Street, New York, New York 10038 hereby certifies that it has issued liability insurance covering bodily injury and property damage to Borden Chemical, Columbus Coated Fabrics, Borden, Inc., 1280 N. Grant Avenue, Columbus, Ohio 43216 in connection with the insured's obligation to demonstrate financial responsibility under rule 3745-55-47 of the Administrative Code. The coverage applies at EPA ID#PH D00 4294 351, Borden Chemical, Columbus Coated Fabrics, Borden, Inc., Ohio Permit #01-25-0145, 1280 N. Grant Avenue, Columbus, Ohio 43216 for sudden accidental occurrences. The limits of liability are \$2 million each occurrence and annual aggregate limits of the insurer's liability exclusive of legal defense costs. The coverage is provided under policy number ISL 209933 issued July 1, 1983. The effective date of said policy is July 1, 1983-84.
2. The insurer further certifies the following with respect to the insurance described in paragraph 1:
  - (a) Bankruptcy or insolvency of the insured shall not relieve the insurer of its obligations under the policy.
  - (b) The insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in paragraph (F) of rule 3745-55-47 or paragraph (F) of rule 3745-66-47 of the Administrative Code.
  - (c) Whenever requested by the director of the Ohio Environmental Protection Agency, the insurer agrees to furnish to the director a signed duplicate original of the policy and all endorsements.
  - (d) Cancellation of the insurance, whether by the insurer or the insured, will be effective only upon written notice and only after the expiration of sixty days after a copy of such written notice is received by the director.
  - (e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty days after a copy of such written notice is received by the director.

I hereby certify that the wording of this instrument is identical to the wording specified in paragraph (J) of 3745-55-51 of the Administrative Code as such regulation was constituted on the date first above written, and that the insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

Diane T. Shellis

Signature of Authorized Representative of Insurance  
Company of North America

DIANE T. SHELLIS

Type Name

Account Manager

Title, Authorized Representative of Insurance Company  
of North America

127 John Street

Address of Representative



Re: Financial Responsibility Requirements  
for Hazardous Waste Management Facilities  
01-25-0145

Mr. William Ilg  
Columbus Coated Fabrics  
P.O. Box 208  
Columbus, Ohio 43216

January 11, 1984

Dear Mr. Ilg:

This letter is to notify you that Ohio adopted financial responsibility rules for hazardous waste facilities which were effective on November 29, 1983. The facility referenced above is subject to these rules. The Federal interim status rules are no longer effective in Ohio since Ohio received Phase I authorization from U.S. EPA in July, 1983.

The financial responsibility rules consist of two major requirements: (1) financial assurance for closure and post-closure care of hazardous waste facilities and (2) liability insurance for sudden and accidental occurrences. Facilities with surface impoundment, land treatment, and landfill operations are required to have non-sudden and accidental coverage in addition to the sudden insurance. Ohio's rules are essentially the same as the federal regulations (40 CFR Parts 264 and 265, Subpart H), with modifications to accommodate Ohio's permitting process.

Documentation of compliance with the State rules must be submitted according to the following timetable:

Trusts, Surety Bonds, Letters of Credit, and Closure Insurance: within 30 days of receipt of this letter.

Financial Test for Closure/Post-Closure and/or Liability Insurance: at the facility's annual update (within 90 days after the close of the company's fiscal year).

Sudden, Accidental Liability Insurance: within 30 days of receipt of this letter.

Non-sudden, Accidental Liability Insurance:

- a. For an owner/operator with sales or revenues totalling \$10 million or more: May 29, 1984
- b. For an owner or operator with sales or revenues greater than \$5 million, but less than \$10 million: May 29, 1984
- c. All other owner/operators: January 16, 1985.

Mr. William Ilg  
Page 2  
January 11, 1984

Please submit your documentation of compliance to:

Ohio EPA - DHMM  
Attn: Deborah Tegtmeyer  
361 East Broad Street  
Columbus, Ohio 43215

Documents used to demonstrate financial responsibility must be worded as specified in Rule 3745-55-51 of the Ohio Administrative Code. Financial assurance demonstrations for both interim status and final status facilities require this wording. Documents with the federal language (40 CFR 264.151) are not acceptable for purposes of compliance with State rules.

Facilities submitting Part B applications to U.S. EPA should demonstrate compliance with Ohio's financial responsibility rules in the Part B application itself. The financial responsibility demonstration should be accompanied by a letter to the Regional Administrator requesting that compliance with Ohio rules be accepted in place of compliance with U.S. EPA's regulations. If you have questions about this procedure, please contact Tom Golz, U.S. EPA Region V, (312) 886-0990.

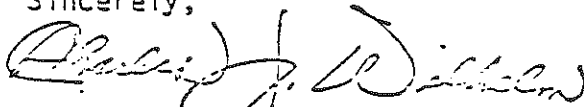
The financial responsibility requirements are Rules 3745-55-40 through 3745-55-51 and 3745-66-40 through 3745-66-48 of the Ohio Administrative Code. Copies of the rules can be obtained from:

Ethel Norman  
Hearing Clerk  
361 East Broad Street  
Columbus, Ohio 43215-1049  
(614) 466-6037

A complete set of the Ohio EPA hazardous waste rules is available at cost from the same address. The financial responsibility rules will be available in county libraries after February, 1984.

If you have questions or need further information, contact Deborah Tegtmeyer, Technical Assistance and Waste Management Section, at (614) 462-6358.

Sincerely,



Charles J. Wilhelm, Chief  
Division of Hazardous Materials Management

CJW/sc

cc: Tom Carlisle, Manager, TA&WM Section  
Debbie Tegtmeyer, Economist, TA&WM Section  
Thomas Crepeau, Manager, P&MR Section



# Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER.  
THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

NAME AND ADDRESS OF CERTIFICATE HOLDER USEPA, Region V 111 West Jackson Blvd. Chicago, IL 60604	COMPANIES AFFORDING COVERAGES	
	COMPANY LETTER <b>A</b>	Insurance Co. of No. America
	COMPANY LETTER <b>B</b>	
	COMPANY LETTER <b>C</b>	
	COMPANY LETTER <b>D</b>	
NAME AND ADDRESS OF INSURED Borden Inc. 180 E. Broad St. Columbus, OH 43215	COMPANY LETTER <b>E</b>	

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	POLICY EXPIRATION DATE	Limits of Liability in Thousands (000)		
					EACH OCCURRENCE	AGGREGATE
A	<b>GENERAL LIABILITY *</b>	ISL 209933	7-1-83/86			
	<input checked="" type="checkbox"/> COMPREHENSIVE FORM			BODILY INJURY	\$ 10,000	\$
	<input checked="" type="checkbox"/> PREMISES—OPERATIONS			PROPERTY DAMAGE	\$ " CSL	\$
	<input checked="" type="checkbox"/> EXPLOSION AND COLLAPSE HAZARD					
	<input checked="" type="checkbox"/> UNDERGROUND HAZARD			BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ "	\$
A	<input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD	ISA 1422	7-1-83/86			
	<input checked="" type="checkbox"/> CONTRACTUAL INSURANCE					
	<input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE					
	<input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS					
	<input checked="" type="checkbox"/> PERSONAL INJURY					
A	<b>AUTOMOBILE LIABILITY</b>	ISA 1422	7-1-83/86			
	<input checked="" type="checkbox"/> COMPREHENSIVE FORM			BODILY INJURY (EACH PERSON)	\$ 10,000	
	<input checked="" type="checkbox"/> OWNED			BODILY INJURY (EACH ACCIDENT)	\$ "	
	<input checked="" type="checkbox"/> HIRED			PROPERTY DAMAGE	\$ "	
	<input checked="" type="checkbox"/> NON-OWNED			BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ "	
	<b>EXCESS LIABILITY</b>					
	<input type="checkbox"/> UMBRELLA FORM			BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$	\$
	<input type="checkbox"/> OTHER THAN UMBRELLA FORM					
	<b>WORKERS' COMPENSATION and EMPLOYERS' LIABILITY</b>			STATUTORY		\$
	<b>OTHER</b>					

DESCRIPTION OF OPERATIONS LOCATIONS/VEHICLES

\* Including Broad Form Vendors Liability.

Includes Environmental Impairment resulting from sudden & accidental occurrences.

Cancellation: Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 30 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

coverage for: EPA #OHD004294351

Borden Chemical  
Columbus Coated Fabrics  
Borden, Inc.  
1280 N. Grant Avenue  
Columbus, OH 43216

DATE ISSUED July 1, 1983

*William J. Manning*  
AUTHORIZED REPRESENTATIVE

STATE FINANCIAL  
MECHANISM

(18) State Financial Mechanism

Not applicable.

TOPOGRAPHIC MAP &  
OTHER REQUIRED MAPS



(19) Topographic Map and Other Required Maps

Since site maps as prescribed by Section (19) will be referred to throughout the application, the sequence of Part B elements is altered to facilitate review. See Section (19).



(20) Special Requirements Prescribed by Regional Administration

Not applicable.

K Other Federal Laws: 270.14(b)(20), 270.3 OAC 3745-50-44(A)(20)

This facility is not governed by any of the following Federal Laws: Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act nor The Fish and Wildlife Coordination Act.



(b) Specific Information Requirements

(1) Container Storage Description      OAC 3745-55-70

(I) Containment System Description

(A) The Hazardous Waste Storage Building is shown as the shaded building in Figures #4 and #5. Figure #6 details a section through the storage building. Leased land east of the Hazardous Waste Storage Building has been in effect since 1926 and will extend indefinitely. This leased land is improved only with railroad tracks which consist of a team track-spur track. The distance from the closest point (north-east corner) of the building to the east edge of the leased land is 77 ft. (50 ft. is leased land).

The walls of the storage building are constructed of 13 inch thick brick from above the paved concrete sidewalls and footer to the roof. The poured 18 inch thick reinforced concrete sidewalls extend from the footer to approximately 24 inches above ground. The floor of the storage building is a 6 inch thick reinforced concrete slab. AN INDEPENDENT ENGINEERING ASSESSMENT PERFORMED BY AN OUTSIDE LICENSED INDEPENDENT ENGINEER OF THE STRUCTURAL INTEGRITY OF THE BASE IS INCLUDED AS FIGURE B-1. This assessment addresses the compatibility of the base with the wastes being stored, as well as the condition of the base.

The building roof is a composition roof over a steel roof deck. The roof is approximately 18 feet, 9 inches above the finished concrete floor.

A sump is located as shown on Figure #5. This is for the purpose of pumping the liquid from any major spills. All wastes and solids in the sump are handled as a hazardous waste. The sump will be pumped as soon as practicable and within 24 hours of the discovery of a spill.

A ramp has been installed as shown in Figures #5 and #6 in order to contain any possible spills of liquids. An existing 4 inch curb (see Figure #5) is located across the north door of the storage building for containment purposes.

The aisle space within the storage building is sufficient in order to inspect each drum for leakage (see Figure #13), page 2a of this section). The aisle space is also sufficient for the movement of emergency equipment. A MINIMUM AISLE SPACE OF TWO (2) FEET WILL BE KEPT AT ALL TIMES.

The fire equipment to be used in case of a fire emergency is as detailed in the Contingency Plan

(B) Containers are kept from contact with any standing liquids since they are stored three high on wooden pallets. The bottom row of containers is approximately 6 inches above the floor. Spills will be removed immediately.

The concrete slab is compatible with all of the Hazardous Wastes and Raw Material stored in the building.

Run on is not applicable since the storage area is an entirely enclosed building.

FIGURE 13  
 LAYOUT OF HAZARDOUS  
 WASTE STORAGE DRUM  
 HAZARDOUS WASTE  
 STORAGE BUILDING

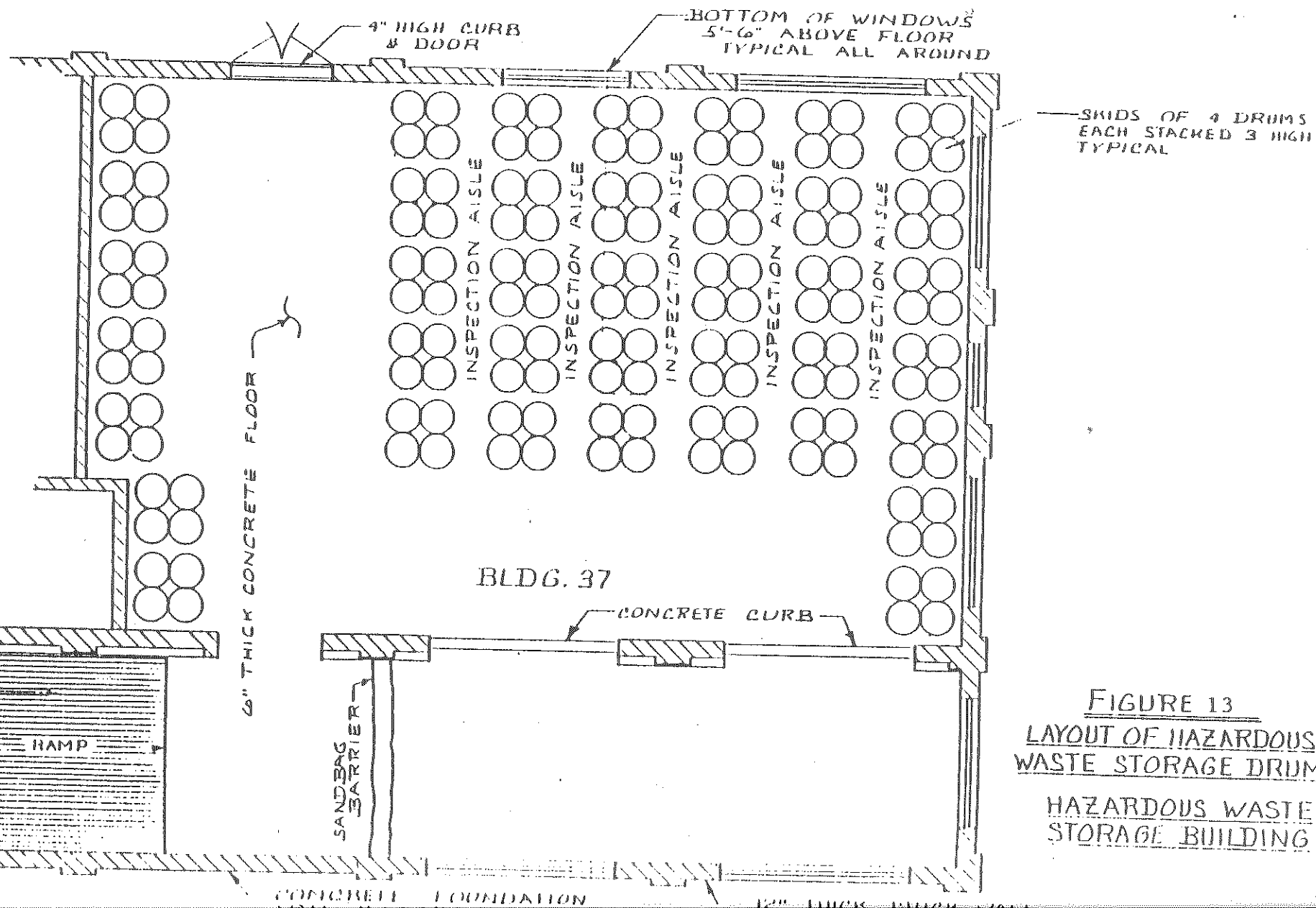


FIGURE 13

(C) The Hazardous Waste storage building encloses 2,202 square feet. The building will be used for the storage of a maximum of 450 drums of hazardous waste material.

The maximum allowed storage capacity of the Hazardous Waste Storage Area is 450 containers:

i.e.  $450 \times 55 \text{ gallons} = 24,750 \text{ gallons}$ .

The secondary containment provided by the building curb which is 4" high at its lowest point is:

$32' \times 52' \times 0.33' \times 7.48 \text{ gallons/cubic foot} = 4,107 \text{ gallons}$ .

No more than 100 pallets can be placed on the base at any time. Each pallet measures 4' X 4' X 0.5' high. Each pallet is estimated to have a displacement volume of 10 gallons or less. Therefore, the maximum displacement volume of the pallets is  $100 \times 10 = 1000 \text{ gallons}$ . This still leaves a secondary containment volume of  $4107 - 1000 = 3,107 \text{ gallons}$ .

This is considerably more than the required containment capacity of 10% of the total storage capacity, or:

$24,750 \times 10\% = 2,475 \text{ gallons}$ .

(D) Not applicable.

(E) Not applicable.

## (II) Drummed Solids

(A) Test procedures for determining whether waste is a solid or a liquid - see Section (3) "Waste Analysis Plan".



(III) Description of Hazardous Waste Drums

(A) The drums used to store and ship hazardous waste are type 17H or 17E 55-gallon drums with lids, gaskets and locking rings. These conform to the DOT specifications as described in 40 CFR, Part 178.116 And 178.118. These may be new or reconditioned drums.

(B) The type 17H and 17E hazardous waste drums are all colored "orange" for ease of identification within the facility.

(C) Flammable liquid labels, flammable solid labels and any other required labels are affixed to each drum as required by 49 CFR, Part 172 at the time of placement of the drum in storage.

(IV) The material STORED in the hazardous waste drums is non-corrosive. It is compatible with the steel drums and gaskets in all cases.

(V) The waste material is also non-reactive with the steel drums and gaskets.

(VI) Container Management Practices

(A) After the containers are filled with the waste, they are checked to see if the material is a solid as stated in the test described on pages 1 and 2 of Section (3), WASTE ANALYSIS PLAN. The operators then seal the containers with lids, gaskets and locking rings.

(B) Containers are not reopened after this point.

(1) The only exception to this involves the Dust Stop Oil Containers. These are opened for the purpose of pumping the oil into a bulk tank truck for off-site treatment.

When being pumped, the containers are still within the diked storage area. The transfer hose is not allowed to drip onto the floor of the Hazardous Waste Storage area or onto the ground. Should any spill occur, it would be contained within the diked storage area and subsequently cleaned up as necessary using pumps or absorbent material.



## CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Date: 3/7/90

Signature: James C. Weaver

James C. Weaver  
Director of Manufacturing